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STUSB1602 Software Library for STM32F446 User Guide

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Introduction

This document provides an overview of the STUSB1602 software package enabling USB PD stack with NUCLEO-F446ZE and MB1303 shield

SOFTWARE	
STSW-STUSB012	STUSB1602 software library for STM32F446
IAR 8.x	C-code compiler
HARDWARE	
NUCLEO-F446ZE	STM32 Nucleo-144 development board
P-NUCLEO-USB002	STUSB1602 Nucleo Pack containing **MB1303** shield (Nucleo expansion board to be plugged on NUCLEO-F446ZE)

SW library set-up

1. Download the STUSB1602 software package by searching STSW-STUSB012 from **www.st.com** home page:

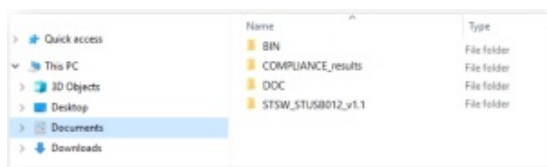2. Then click on "Get Software" from either the bottom or top of the page

3. Download will start after accepting the License Agreement, and filling contact information.

4. Save the file en.STSW-STUSB012.zip on your laptop
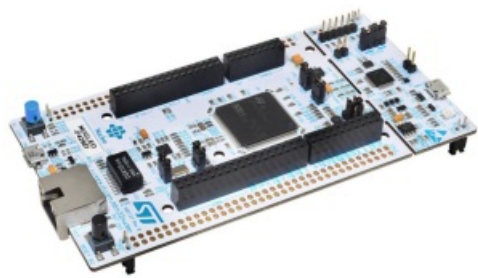

    and unzip:

5. The package contains a DOC directory, ready-to-use binary files, associated projects and compliance reports

Suggested Hardware requirements

The software library has been optimized to quickly compile on the NUCLEO-F446FE development board stacked with MB1303 expansion board (from P-NUCLEO-USB002 package).
MB1303 is composed of 2 Dual Role Ports (DRP) USB PD capable receptacles (form factor not optimized)

- NUCLEO-F446ZE

- MB1303

NUCLEO-F446ZE Hardware set-up

Software package Overview

The software library includes 8 different software frameworks (+ 3 without RTOS) already optimized to address most common application scenario:

	Project	Typical Application

#1	STM32F446_MB1303_SRC_ONLY(*)	Provider / SOURCE (power management)
#2	STM32F446_MB1303_SRC_VDM	Provider / SOURCE (power management) + extended message support
#3	STM32F446_MB1303_SNK_ONLY(*)	Consumer / SINK (power management)
#4	STM32F446_MB1303_SNK_VDM	Consumer / SINK (power management) + extended message support + UFP support
#5	STM32F446_MB1303_DRP_ONLY (*)	Dual Role Port (power management) + dead battery mode
#6	STM32F446_MB1303_DRP_VDM	Dual Role Port (power management) + dead battery mode + extended message support + UFP support
#7	STM32F446_MB1303_DRP_2ports	2 x Dual Role Port (power management) + dead battery mode + extended message support + UFP support
#8	STM32F446_MB1303_DRP_SRCING_DEVICE	Dual Role Port requesting PR_swap when attached in Sink or DR_swap when attached in Source

- by default, all projects are packaged with RTOS support
- project annotated with a (*) are available with and without RTOS support

For more details, please check Firmware Package documentation:

Documents / Resources

	ST STUSB1602 Software Library for STM32F446 [pdf] User Guide STUSB1602, Software Library for STM32F446